REMARKS

With this amendment, Claims 39-62 are pending in this application.

Rejection of Claims 39, 43-44, 46-47, 51-53, and 57-59 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272:

Applicant respectfully requests reconsideration of the rejection of Claims 39, 43-44, 46-47, 51-53, and 57-59 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272.

Applicant respectfully submits that Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not describe nor anticipate Applicant's invention as claimed in Independent claims 39 and 52.

Ogier et. al., column 29 lines 19 & 20, describes "The current state of the link to neighbor node B, which can be "heard", "symmetric", or "lost"." Ogier et al column 29 lines 31 to 40 describe three possible states of a neighbor node B have the following meaning at node A:

"Heard": A complete HELLO message was received from neighbor node B within the last K*HELLO_INTERVAL seconds, but it is unknown whether neighbor node B can hear node A.

"Symmetric": Nodes A and B can hear each other.

"Lost": No complete HELLO message has been received from neighbor node B within the last K*HELLO_INTERVAL seconds.

Applicant respectfully disagrees with the contention in the Office Action, that the states described in Ogier equate to the states claimed in Claims 39 and 52. Specifically, the Office Action equates the states from Ogier to our states as follows:

Lost off state

Heard active, non-relay

Symmetric active, relay

Applicant respectfully disagrees with the interpretation that the "Heard" state is equivalent to the "active, non-relay" state. Claims 39 and 52 describe that in the "active, non-relay" state, the node will still participate in the network, but only for sending and receiving it's own traffic. The "active" part describes network participation, not the functional state of the node. And the "non-

relay" part says it can not/will not relay traffic for other nodes. Ogier's "Heard" state does not define the equivalent state. The definition for the "Heard' state in Ogier says "it is unknown whether neighbor node B can hear node A". As the Office Action states: "it may not be able to hear it's neighboring node". This presents three possibilities:

1. Node B can not hear node A, and A-B is the only available link.

2. Node B can not hear node A, but an alternate link is available for return communication from A to B.

3. Node B can hear node A. This is a transitory condition that will become the "Symmetric" state, since B must soon hear node A's Hello message. In the interim, Node B will operate either as 1 or 2, above.

For #1, while Node B is functional and not relaying data, it is not active in the network because it cannot receive it's own data. So the equivalent state would be "not active, not relay", which is functionally the same as our "off" state. Case #1 describes Node B that is functional, but not active in the network, since it cannot receive any traffic. It cannot receive it's own traffic. And since it cannot receive any other traffic, there is it no traffic to relay either. So the equivalent state would be "not active, not relay", which is most similar to our "off" state.

Case #2 describes Node B that is active in the network, since both a B-to-A and A-to-B links exist. So Node B can both send and receive traffic. But there is nothing in the state information to differentiate between types of traffic, so it will both send and receive it's own traffic as well as send and receive other traffic (relay). So the equivalent state is "active, relay".

With regards to the office action, Page 3, Applicant respectfully submits that the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not provide a reasonable expectation of success. Specifically, it is clear that the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 would not work, for the following reasons.

The common use of the term QoS is related to the needs of the packet traffic. In, the stated Field of the Invention of An et al suggests this interpretation (Column 1 Lines 2-12). The usage of the term QoS in the Anu patent supports this interpretation.

In contrast, Applicant's claimed invention is based entirely on the needs of the node whether to relay or not, not the needs of the packet stream. All claims are that a node can choose to not participate as a relay node, regardless of the impact to the network or packet traffic. Since

Applicant's claims are in direct opposition to the needs stated in the Field of Invention in An et. al., it would NOT be obvious for someone to extend the common usage of a QoS mechanism to allow a node to operate in what would be a detrimental manner.

Further, Applicant respectfully disagrees with the explanation in the Office Action page 3, last paragraph that efficiency is important, and is provided as justification for extending Ogier et. al. The two mechanisms function differently. The Office Action states that "though these nodes send and receive data for QoS determination, they are simply not part of those selected path for the new call". So neighbor nodes still send messages to non-relay nodes for routing, And the non-relay nodes must still perform QoS calculations and respond. But since they will not relay, they have no usable outbound relay paths, the QoS value returned will indicate no usable routes at this node.

In Applicant's claimed invention, in contrast, the non-relay information is distributed in advance to neighboring nodes, where it is retained. The neighboring nodes never even send a routing attempt to a non-relay node for routing (see [0034]-[0036]).

In summary, while an undefined QoS mechanism could be extended to include a value to prevent relaying, it would not be obvious to modify QoS in the manner we describe, since this in contrary to the intent of QoS mechanisms, and the efficiency justification is not valid.

Therefore, the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not provide a reasonable chance of success nor is there any motivation to combine such references. Therefore, Applicant respectfully submits that Claims 39 and 52 are allowable over the cited art.

Regarding Claims 43-44, 46-47, 51, 53, and 57-59, Applicants submit that Claims 43-44, 46-47, 51, 53, and 57-59 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above. In addition, Applicants submit that claims 43-44, 46-47, 51, 53, and 57-59 are also independently patentable because they include limitations not taught or suggested by the cited reference.

Therefore, since Claims 39, 43-44, 46-47, 51-53, and 57-59 recite patentable subject matter, Applicants respectfully submit that Claims 39, 43-44, 46-47, 51-53, and 57-59 are in proper condition for allowance and request that Claims 39, 43-44, 46-47, 51-53, and 57-59 may now be passed to allowance.

Rejection of Claims 40-41, 45, and 54-55 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 and further in view of Orava (U.S. Patent Application Publication 2002/0071477):

Applicants submit that Claims 40-41, 45, and 54-55 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 40-41, 45, and 54-55 recite patentable subject matter, Applicants respectfully submit that Claims 40-41, 45, and 54-55 are in proper condition for allowance and request that Claims 40-41, 45, and 54-55 may now be passed to allowance.

Rejection of Claims 42 and 56 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow et al (U.S. Patent Application Publication 2002/0159385):

Applicants submit that Claims 42 and 56 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Further, applicant respectfully submits that Ogier et al An et al U.S. Patent No. 6,813,272 in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow does not anticipate Applicant's invention as claimed in the further limitations of claims 42 and 56. Specifically, the credit system described by Susnow is a flow control mechanism to control the number of packets sent to an intermediate node by a source node [0048]. This number is dynamically updated as the intermediate node empties it's buffers, allowing the source node to send more packets [0049]. This provides the intermediate node temporary relief when the source node sends more packets than can be handled, a form of congestion control.

Applicant's invention of claims 42 and 46 are an economic credit [0037] for helping in the multi-hop network. When the maximum credits are accumulated, the node stops helping in the network (changes from relaying to non-relaying). The node continues to participate in the network, it just doesn't help as a relay point for other nodes. This is not done to prevent inundation of the node, simply to limit the economic credit that can be received. Applicant respectfully submits that it would not be obvious to one of ordinary skill to extend the concept of flow control to economic credits. Plus, intermediate nodes in Susnow cannot completely stop relaying without breaking the network, it's only a temporary condition. In Applicant's network, a node can stop relaying and still participate in the network. Other nodes will simply find an alternate route. An

economic credit system has no relation to flow control. The reason for economic credits is the different goals for the network vs. the user. In a multi-hop network, relaying packets can be important to the network, but can be detrimental to a user, so the credits provide the economic incentive for a user to relay packets. The maximum value is present only to limit economic exposure by the network operator.

Therefore, since Claims 42 and 56 recite patentable subject matter, Applicants respectfully submit that Claims 42 and 56 are in proper condition for allowance and request that Claims 42 and 56 may now be passed to allowance.

Rejection of Claims 48-50 and 60-62 under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view An et al U.S. Patent No. 6,813,272 and further in view of Larson et al (U.S. Patent No. 6,810,428):

Applicants submit that Claims 48-50 and 60-62 are allowable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 48-50 and 60-62 recite patentable subject matter, Applicants respectfully submit that Claims 48-50 and 60-62 are in proper condition for allowance and request that Claims 48-50 and 60-62 may now be passed to allowance.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

The Commissioner is hereby authorized to charge Deposit Account 502117, Motorola, Inc, with any fees which may be required in the prosecution of this application.

Respectfully submitted,

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